

Work Order ID 154437

Tuesday, December 13, 2016 8:03:47 AM

154437

Page 1

Item ID: D2011-101

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Mirror 6"

Start Date: 12/13/2016 Start Qty: 12.00

12

Cust Item ID:

Required Date: 12/28/2016 Req'd Qty: 12.00

12

Customer:

Reference:

DAS
13
9-89

Approvals: Process Plan: _____ Date: DEC 13 2016

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2011

Rev G

100

0.00

100

Purchasing

PURCHASING

Memo

0.00

Purchasing

Issue P/O: 34667 Mirror P/N: 28663 supplier: B C
INDUSTRIAL Material release note required12 DEC 16 2016DAS
13
9-89

110

0.00

110

Packaging

Receive & Inspect for Damage & Mat'l Certs

Memo

0.04

Packaging

Ensure material certification is attached

12 SP/7-01-4

120

0.00

120

QC

QC6- Inspect dimensions to drawing

Memo

0.00

Quality Control

12 11-01-05DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By 	
								Lead hand / Supervisor Approval Verification 	
								QC / QA Coordinator Approval 	

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐								
Misidentified	☐	Past Due	☐	OTHER : _____							

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Page 2

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Required Date: 12/28/2016 Req'd Qty: 12.00

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Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	DAS 36 9-89
130	Small Fab	0.00								
130										
Small Fab	Memo	0.08								
Small Fab	1- Wrap mirror with plastic wrap									
	2- Discard Hardware & Install new hardware loosely									
	3- Crimp stud as per Dwg D2011									
140	QC5- Inspect part completeness to step on W/O	0.00								
140										
QC	Memo	0.04								
Quality Control	4- Test assembly to 50lbs pull test after 24 hours									
										DAS 38 9-89 JAN 25 2017
150	Identify as per dwg & Stock Location: <u>51281</u>	0.00								
150										
Packaging	Memo	0.02								
Packaging										
										DAS 6 9-89 JAN 27 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
		OTHER :							

Work Order ID 154437

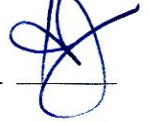
Tuesday, December 13, 2016 8:03:47 AM

154437

Page 3

Item ID: D2011-101 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Mirror 6"
Start Date: 12/13/2016 Start Qty: 12.00 ***12*** Cust Item ID:
Required Date: 12/28/2016 Req'd Qty: 12.00 ***12*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00					17/01	30	
160									
QC	Memo	0.20							
Quality Control									

mf

17-1-30

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By 	
								Lead hand / Supervisor Approval Verification 	
								QC / QA Coordinator Approval 	

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : 							
Misidentified	☐	Past Due	☐								

Picklist Print

Tuesday, December 13, 2016 8:03:47 AM

Page 1

Work Order ID: 154437

154437

Parent Item: D2011-101

D2011-101

Parent Item Name: Mirror 6"

Start Date: 12/13/2016

Required Date: 12/28/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP: J04.09.15 Added Steps 5-7 KJ/JLM IPP:
K05.12.15 chg black sikaflex for white EC IPP L 08.11.06 new
drawing EC verify: DD IPP: M 08.12.19 Added step 3 KJ Verified
by: LL IPP rev N 10.01.13 added wrap per ncr09-118 EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
CHM-10601		Purchased	No			130	Each	0.0000	1	12			
CHM-10601									**				
Mirror 6"													
D2829		Manufactured	No			130	Each	21.0000	1	12			
D2829									**				
Threaded Stud													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				GA		21							
				146644		21							
D3014-1		Manufactured	No			130	Each	114.0000	1	12			
D3014-1									**				
Lock Nut													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST015		114							
				122272		114							
NAS1149D0416J		Purchased	No			110	Each	3,979.000	1	12			
NAS1149D0416J									**				
WASHER													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				GA		23							
				m131511		23							
				ST260a		2492							
				m131511		2492							
				ST264		1464							
				m131511		1464							

12 x Sp 17-01-4

17/01/24 DAS 36 9-89

151503 (12x) DAS 36 9-89

17/01/25

12

17/01/25 DAS 36 9-89

12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

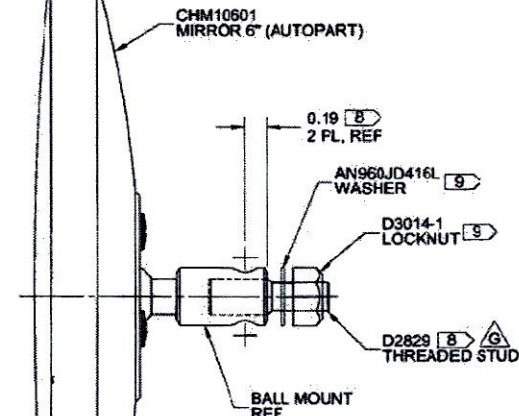
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By 		
							Lead hand / Supervisor Approval Verification 		
							QC / QA Coordinator Approval 		

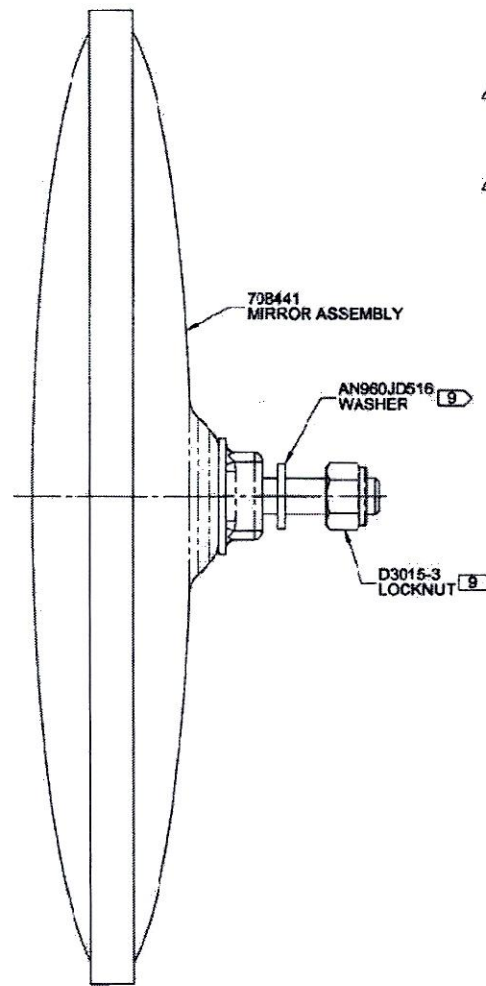
Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : 					
Misidentified ☐	☐ Past Due						

8 7 6 5 4 3 2 1

ITEM	QTY -101	QTY -103	P/N	DESCRIPTION
1	X		D2011-101	MIRROR ASSEMBLY 6"
2		X	D2011-103	MIRROR ASSEMBLY 8"
3	1		D2829	THREADED STUD
4	1		D3014-1	LOCKNUT
5		1	D3015-3	LOCKNUT
6	1		CHM10601	MIRROR 6" (AUTOPART)
7		1	708441	MIRROR 8" (VELVAC)
8	1		AN960JD416L	WASHER
9		1	AN960JD516	WASHER



D2011-101 MIRROR ASSEMBLY 6"



D2011-103 MIRROR ASSEMBLY 8"

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: D2011-101 = 0.6 lbs APPROX. ; D2011-103 = 1.0 lbs APPROX.
 - 8) D2829 INSTALLATION PROCEDURE:
 - APPLY LOCKTITE 262 TO $\phi 5/16$ END OF D2829
 - THREAD BY HAND INTO BALL MOUNT UNTIL ENTIRE $\phi 5/16$ END OF D2829 IS WITHIN BALL MOUNT
 - CRIMP BALL MOUNT ON TWO OPPOSING SIDES, 0.19 FROM END AS ILLUSTRATED USING TOOL DT8317
 - CRIMP TO DEPTH OF 0.040 $\pm$ 0.010 USING R0.125
 - 9) INSTALL LOOSE

DEC 13 2016
W10.154437
RELEASED
08-10-2016

G	REDRAWN IN SOLIDWORKS TO CURRENT STANDARD AND TRANSFERRED TO "B" SIZE FORMAT. MIRROR 6" (AUTOPART) AND CHM10601 WERE MIRROR 6" (GROTE) AND PIN 28043 (ZN D3-1); ADDED D2829 (ZN D3-1 AND ZN CS-1); REMOVED DRILLING NOTE, VIEW A-A AND SIKAFLEX APPLICATION NOTE. REASON: GROTE PRODUCT IS DISCONTINUED	MB	08.10.06
F	ADD HOLES FOR SEALANT ON -101	CP	04.09.10
E	NEW 8" MIRROR	CP	01.05.08
D	NEW 6" MIRROR, ADD NUT, REMOVED STUD	CP	01.04.23
C	REPLACE DOMINION AUTO MIRRORS WITH PHILLIPS, ADDED STUDS, REDRAWN	RF	09.06.01
B	SIKAFLEX 241 ADDED	JB	08.04.09
A	DWG NO. WAS DSP1011, ADDED -103.	JB	06.06.15
-	NEW ISSUE	JB	08.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN	JB		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.10.06		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D2011 TITLE MIRROR ASSEMBLY SCALE NTS REV. G SHEET 1 OF 1 COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS TO REMAIN THE PROPERTY OF DART AEROSPACE LTD. IT IS NOT TO BE REPRODUCED OR COPIED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.			



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO34667**

Purchase Order Date 12/16/2016 11:09:07 AM
PO Print Date 12/16/2016

Page Number 1 of 2

Order From :
B C INDUSTRIAL
14 OLD FOREST
KIRKLAND, QUEBEC H9J 2Z8

VC-BCI001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

RECEIVED
DEC 16 2016

Contact Name
Vendor Phone 514-585-8907
Ship To Contact
Ship To Phone
Ship Via: FedEx Economy collect
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	71400-40	#6712 3" ROLLER	12/22/2016 Yes 12/22/2016		20.00 Each	\$3.65	\$73.00
Line Total:							\$73.00
2	28663 AS PER DWG D2011 REV. G B154437	Mirror 6"	12/22/2016 Yes 12/22/2016	FN	12.00 Each	\$18.70	\$224.40
Line Total:							\$224.40

PO Instructions: Procurement Quality Clauses
A000 QUALITY CLAUSES NOT REQUIRED

Note:

12/16/2016

Jan 3 2017

Packing Slip

PS170103DA

Livrer a/Ship to:

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Votre PO# 34667

Description	Livrer/Ship	B/O
1. mirror 28663 ✓	12 ✓	0

SP 17-014.

BC Industrial.... 14 Old Forest....Kirkland, Quebec.. H9J2Z8
Phone 514-585-8907 bcpc1@videotron.ca

BC Industrial..... 14 Old Forest....Kirkland....Quebec....H9J-2Z8....Canada
Phone 514-585-8907 Email bcpci@videotron.ca

FACTURE/INVOICE

INV170103DA

Jan 3 2017

Ref Notre PS# PS170103DA

Votre PO# 34667

Vendu a

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Description

1. mirror 28663

Quan

Prix

Total

12

18.70

224.40

SP17-01-4.

224.40

HST

29.17

TOTAL

253.57

#TPS/GST-14264062

#TVQ/PST-1021696907

Terms 2%10 Net 30

BC Industrial..... 14 Old Forest....Kirkland....Quebec....H9J-2Z8....Canada

Phone 514-585-8907

Email bcpcl@videotron.ca

Certificate of Compliance

Jan 3 2017

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Att: Chantal Lavoie

This is to confirm that the parts delivered on our

PS170103DA

Grote mirror 28663

DAS
9
9-89

conforms to the specifications outlined on your purchase
order 34667

Thank you


Bryan Cameron

#TPS/GST-14264062

#TVQ/PST-1021696907

Terms 2%10 Net 30